INTERNATIONAL ROAD DYNAMICS INC.
702 - 43rd Street East, Saskatoon, SK, Canada,
Phone: (306) 653-6600 Fax: (306) 242-5599

- Site Service Report -

IRD SO.: 11167 **IRD Contract No.:**
To: Cindy Mantie
From: Ed Duffy
Project Name/Location: LTPP Site Danville VA, RT 29 S/B
Service Date(s): 11 Mar 2011

Job Description:
Site visit to troubleshoot loop issue Dean discovered during validation of the Non-LTPP lane. May be a problem with the sensitivity or frequency settings of the loop(s) in that lane. To fix it would require the downloading of new firmware, and the remote setting of the loop frequency and sensitivity settings, at a minimum.

Work Completed:

The service work on the Virginia LTPP site occurred from 9:30am to 3:00pm on 2011-03-11. WIM data from the site during this time should be ignored.

July 18, 2010 thru August 24, 2010 the SSM board reported bad RefP and RefN values. This problem appears to have fixed itself.

The firmware was upgraded to the current rev V.

Original loop frequencies were L1U=72, L1D=110, L2U=133, L2D=150. L2D was somewhat noisy.

The loops were measured electrically. L1D showed somewhat low inductance, not sure why. L2U showed an unsteady inductance reading. All resistances were OK.

The frequencies of the loops were adjusted to minimize crosstalk. The adjusted frequencies were L1U=100, L1D=75, L2U=145, L2D=130. I rechecked on Monday morning and the only change was L2U to 146, a nominal deviation.

Thresholds for each loop were adjusted to not drop out on semi-trucks, as best as possible. The final settings were L1U=4, L2D=4, L2U=3, and L2D=4.

The loop dropout times were adjusted. Lane 2 shows lower sensitivity, and has less traffic. The default turn-on delay was not changed from 240, as that might change the weighing timing. The turn-off delay for lane 1 was set to 480 for both loops. The turn-off delay for lane 2 was set to a much longer 800 for both loops. This may cause the overall length of vehicles to be mismeasured long.

Measurement	Lane 1 Upstream	Lane 1 Downstream	Lane 2 Upstream	Lane 2 Downstream

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Original Frequency	72 KHz	110 KHz	133 KHz	150 KHz (Noisy)
Inductance	144	74 why so different?	~ 120 very unsteady	130
around loop resistance	0.6	0.5	0.9	1.0
loop/shield resistance	OL	OL	OL	OL
shield/ground resistance	OL	OL	OL	OL
New frequency	100 KHz	75 KHz	145 KHz	130 KHz
New threshold	4	4	3 (was 4)	4
New On Delay	240	240	240	240
New Off Delay	480 (was 240)	480 (was 240)	800 (was 240)	800 (was 240)

Work Remaining:
Monitor site

Parts Used:

Mileage / Travel Time:

Notes:

Action Items:

Item	Action Required	Ownership
1.		
2.		
3.		
4.		